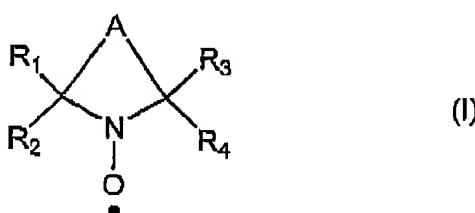


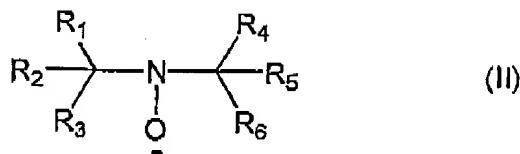
In the Claims:

1. (Currently amended) A method of oxidizing carbohydrates having primary alcohol groups, the method comprising the steps of:
placing a nitroxyl radical mediator, halide and peroxidase enzyme in solution,
adding a hydroperoxide to the carbohydrates which is to the solution thereby placing the
carbohydrates in contact with a the nitroxyl radical mediator, and
wherein said method is catalyzed by a peroxidase enzyme in the presence of a halide
adding a hydroperoxide thereby oxidizing the carbohydrates.
2. (Original) The method of claim 1 wherein the hydroperoxide is hydrogen peroxide.
3. (Original) The method of claim 1 wherein the carbohydrate is a polysaccharide.
4. (Original) The method of Claim 3 wherein the polysaccharide is selected from the group consisting of starch and cellulose pulp.

5. (Original) The method of Claim 1 wherein the nitroxyl radical mediator is a di-tertiary alkyl nitroxyl radical has a formula selected from the group consisting of:

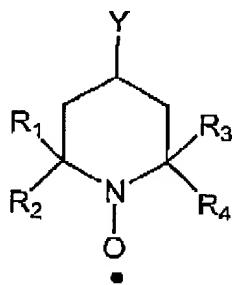


and



wherein A represents a chain of preferably two or three atoms, in particular carbon atoms or a combination of one or two carbon atoms with an oxygen or nitrogen atom, and the R groups represent the same or different alkyl groups.

6. (Currently amended) The method of Claim 4 5 wherein the nitroxyl radical mediator has the formula:



where Y is H, OH, O-C(O)-CH₃, or NH-C(O)-CH₃.

7. (Original) The method of Claim 2 wherein the peroxidase enzyme is derived from an animal source.

8. (Currently amended) The method of Claim 2 wherein the peroxidase enzyme is selected from the group consisting of lactoperoxidase ("LPO"), myeloperoxidase ("MPO"), eosinophil peroxidase ("EPO"), thyroid peroxidase ("TPO"), evoperoxidase ovoperoxidase, salivary peroxidase, and vanadium haloperoxidase haloperoxidase.
9. (Original) The method of Claim 1 wherein the halide ion is bromide.
10. (Currently amended) The method of claim 9 1 wherein the peroxidase enzyme is LPO; the temperature of the reaction is kept between about 10°C to about 70°C; the pH is between about 3.0 to about 9.0; and the nitroxyl radical mediator is present in an amount of between about 0.01 to about 50 wt % by weight of the carbohydrate.
11. (Original) The method of claim 10 wherein the temperature of the reaction is kept between about 20°C to about 50°C; the pH is between about 4.5 to about 6.5; and the nitroxyl radical mediator is present in an amount of between about 0.1 to about 20 wt % by weight of the carbohydrate.
12. (Withdrawn)
13. (Withdrawn)
14. (Withdrawn)
15. (New) The method according to claim 1 wherein the hydroperoxide oxidizes the halide to its corresponding hypohalite by catalytic action of the peroxidase enzyme, and wherein the hypohalite oxidizes the nitroxyl radical mediator to its corresponding nitrosonium ion.
16. (New) The method according to claim 15 wherein the nitrosonium ion oxidizes primary alcohols of the carbohydrates to aldehydes.